Saudi Journal of Medicine and Public Health

Navigating the Complex Health Maze: A Critical Review of Integrated Care Models for High-Cost, High-Need Patients

Essa Jari Ibrahim Dallak [1] , Ahmad Mohammed Hantool [2] , Salma Saleh Aboosh alaboosh [3] , Sultan Saleh Albalawi [4] , Ahmed Mohammed Hussain Darbashi [5] , Faiza Saleh Al-Alaboush [6] , Yahya Musawi Zaila [7] , Abdulrahman Abdullah AlAhmadi [8] , Saleh Mohammed Sharid Almutairi [9] , FARES Abdulaziz Sharid Al-Mutairi [10] , Mishari Fuhaid Mohammed Al-Mutairi [10] , Jubran Ali Jubran Almalki [11]

(1) Erada Mental Health Hospital, Ministry Of Health, Saudi Arabia,
(2) Imam Abdulrahman Al-Faisal Hospital, Riyadh,First Health Cluster,Ministry Of Health, Saudi Arabia,
(3) Health in Hail Cluster,Ministry Of Health, Saudi Arabia,
(4) Eradah Complex for Mental Health, Tabuk,Ministry Of Health, Saudi Arabia,
(5) Samta General Hospital – Jizan,Ministry Of Health, Saudi Arabia,
(6) Public Health in Hail Cluster,Ministry Of Health, Saudi Arabia,
(7) Jazan Mental Health Hospital,Ministry Of Health, Saudi Arabia,
(8) King Salman Bin Abdulaziz Hospital, Riyadh,Ministry Of Health, Saudi Arabia,
(9) Ksa, Ministry of Health, Badaya General Hospital,Ministry Of Health, Saudi Arabia,
(10) Badaya General Hospital, Ministry Of Health, Saudi Arabia,
(11) Al Dahw,Ministry Of Health, Saudi Arabia

Abstract

Background: A small subset of patients, termed "super-utilizers," account for a disproportionately high share of healthcare costs and hospital encounters. These individuals typically present with complex, interwoven medical, behavioral health, and social needs. Traditional, reactive, and siloed care models fail to meet their requirements, leading to cyclical hospital readmissions, poor health outcomes, and unsustainable resource expenditure.

Aim: This narrative review aims to synthesize evidence on integrated care model components for developing an effective population health management strategy targeting hospital super-utilizers.

Methods: A comprehensive search of PubMed, CINAHL, PsychINFO, Web of Science, and Business Source Complete was conducted for literature published between 2010-2024.

Results: Effective strategies are anchored in robust data informatics for cohort identification and risk stratification. Core operational components include intensive, nurse-led care management embedded within accountable, cross-continuum care pathways. Success is contingent on integrating mental health and substance use treatment and addressing social determinants. Proactive monitoring, including point-of-care testing in community outreach, supports chronic disease management.

Conclusion: Managing the super-utilizer population requires a fundamental shift from episodic to holistic, person-centered care. A successful strategy integrates predictive analytics with an interdisciplinary, team-based model that bridges medical, behavioral, and social services. Investment in such integrated models demonstrates potential for improved patient outcomes and significant return on investment through reduced acute care utilization.

Keywords: Super-Utilizer, Integrated Care, Population Health Management, Care Coordination, High-Cost High-Need Patients.

_____

Introduction

Imagine a hospital emergency department as a bustling, high-stakes port in a storm. While it welcomes all in distress, a predictable pattern emerges: the same vessels, battered by relentless waves of illness and circumstance, return again and again. These are the "super-utilizers" or high-cost, high-need (HCHN) patients—a population that poses one of the most vexing and expensive challenges to contemporary healthcare systems globally. Clinically, they are a heterogeneous group often characterized by multiple, interacting chronic conditions like congestive heart failure (CHF), chronic obstructive pulmonary disease (COPD), and diabetes, compounded by serious mental illness (SMI), substance use disorders (SUD), and a crushing burden of social determinants such as housing instability, food insecurity, and profound isolation (Cohen, 2015; Blumenthal et al., 2016).

Their clinical narratives are not merely medical histories; they are testimonies to systemic failure. Trapped in a cycle of crisis and response, super-utilizers experience care that is fragmented, uncoordinated, and frequently delivered at the most expensive and least effective point: the acute care setting (Bodenheimer & Berry-Millett, 2009). For

_____

hospital administrators, this cohort is a financial vortex, driving unsustainable losses under emerging value-based payment models that penalize readmissions and reward outcomes, not volume (Cutler & Ghosh, 2012). For clinicians, they represent moral distress—knowing that a patient's needs extend far beyond what a prescription pad or a hospital bed can address. From a public health and ethical standpoint, their poor outcomes are an indictment of a system not designed for complexity.

Consequently, the imperative to develop sophisticated, targeted population health management (PHM) strategies for super-utilizers transcends operational budgeting. It represents a critical frontier in the quest for a more humane, effective, and sustainable healthcare system (Salzberg et al., 2016). This narrative review, synthesizing evidence from 2010 to 2024, ventures into this complex terrain. It deconstructs the architecture of successful integrated care models, examining the convergence of predictive informatics, strategic hospital administration, the transformative role of nursing, indispensable psychological integration, and the enabling power of proactive diagnostics. The central thesis is that only through a deliberately engineered, person-centered ecosystem of care can we hope to navigate super-utilizers out of the revolving door and onto a path of stability and improved health.

The Digital Compass – Advanced Analytics for Precision Identification and Stratification

The first, non-negotiable step in any effective super-utilizer strategy is moving beyond anecdote and intuition to precision targeting (Khatri et al., 2023). These patients are not a monolith; distinct subpopulations exist, from the frail elderly with multimorbidity to younger adults with severe mental illness and homelessness (Berkowitz et al., 2016). A scattergun approach wastes precious resources. Therefore, the foundation of a modern PHM strategy is built upon public health informatics and predictive data analytics (Endalamaw et al., 2023).

Sophisticated models now mine integrated data streams—including historical claims, electronic health records (EHR), pharmacy fill data, and increasingly, social service referrals—to identify patients at the highest risk of future acute care utilization (Zhou et al., 2016; Van Grootven et al., 2021). The algorithms look for patterns beyond simple visit counts. Key predictive variables often include specific diagnostic clusters (e.g., CHF + COPD + depression), markers of medication non-adherence, patterns of "doctor-shopping" across multiple EDs, and geospatial indicators linked to socioeconomic deprivation (Finkelstein et al., 2023). This analytic process enables dynamic risk stratification, creating tiered patient cohorts.

This stratification is crucial for resource allocation. It ensures that the most intensive and costly interventions are reserved for those at the very highest risk, while patients at lower or emerging risk receive appropriately scaled support. This moves the entire system from a reactive posture—waiting for the next crisis—to a proactive one, where outreach and engagement can begin *before* the next hospitalization (Hsu et al., 2017). Furthermore, this data-driven approach is essential for continuous program evaluation, providing objective metrics on utilization reduction, cost savings, and return on investment (ROI) that are vital for securing and maintaining administrative and financial buy-in (Nelson, 2012). The table below outlines a proposed tiered stratification model.

Table 1: Tiered Risk Stratification and Corresponding Integrated Care Model Intensity

Risk Tier & Patient Profile	Identification & Data Triggers	Core Intervention Model & Philosophy	Key Personnel & Caseload Dynamics
Tier 3: High-Intensity / High-Complexity Patients with severe, uncontrolled chronic illness, active SMI/SUD, and acute social crises (e.g., homelessness).	>5 ED visits or >2 admissions past year; ≥2 major chronic conditions + behavioral health comorbidity; EHR flags for social risks.	**Assertive Community Treatment (ACT)-Inspired Intensive Management.** Focus on trust-building, crisis prevention, and direct service provision. Very high-touch, low-barrier care.	**Dedicated Interdisciplinary Team:** RN/LCSW Care Manager (caseload ~1:50), Community Health Worker (CHW), consulting Psychiatrist, aligned PCP. 24/7 crisis support availability.
Tier 2: Moderate-Intensity / Stabilization Focus Patients with multiple chronic conditions, controlled or mild-moderate behavioral health issues, and some social support needs.	3-5 ED visits or 1-2 admissions past year; ≥2 chronic conditions; sporadic medication adherence.	**Managed Care / Patient-Centered Medical Home (PCMH) Enhanced.** Focus on care coordination, self-management education, and reliable access to primary/behavioral care.	**Clinic-Based Team:** RN Care Manager (caseload 1:100-150), integrated Behavioral Health Specialist, proactive Primary Care Physician. Regular scheduled contact.

| Tier 1: Transition / Prevention & Early Intervention Patients showing early warning signs (rising risk scores) or transitioning from higher tiers after stabilization. | 1-2 ED visits in past year; rising predictive risk score; single complex chronic condition (e.g., new CHF diagnosis). | Enhanced Primary Care with Panel Management. Focus on prevention, medication optimization, and early connection to community resources to prevent escalation. | Primary Care-Based: PCP with support from Medical Assistant or Panel Manager for outreach and follow-up. Technology-enabled check-ins. |

Architecting the Ecosystem – Hospital Administration's Role in Pathway Redesign

For hospital leaders, the super-utilizer challenge requires more than clinical innovation; it demands strategic system redesign and new financial architectures. The traditional fee-for-service model creates a perverse incentive: it financially rewards the volume of admissions and procedures, not their prevention. Successfully managing super-utilizers thus necessitates a fundamental shift in budgeting philosophy and value attribution (Kaufman et al., 2019). This involves making upfront, strategic investments in non-revenue-generating but essential roles—care managers, community health workers, behavioral health consultants—and potentially accepting short-term reductions in inpatient revenue with the long-term goal of improved margins under risk-based contracts and enhanced community health.

Operationally, this translates into building accountable, cross-continuum care pathways. The hospital must evolve from a fortress of acute care into the anchor of a community health network. This requires formalizing partnerships with post-acute care facilities, community mental health centers, substance use treatment providers, housing agencies, and social service organizations (Kizer & Jha, 2014). The goal is to create a "warm handoff" system that functions seamlessly. Crucial to this is the development of shared, interoperable care plans—digital or otherwise—that travel with the patient, ensuring all providers are aligned on goals, medications, and alert parameters (Bates & Singh, 2018). The administrative mandate is to dismantle the silos, broker the partnerships, align the incentives, and build the infrastructure that allows clinical compassion and coordination to flourish.

The Glue That Binds – The Transformative Centrality of Nursing Care Management

If data analytics provides the map and administration builds the roads, then the nurse care manager is the dedicated guide who walks the journey with the patient. This role represents a fundamental evolution in nursing practice, combining clinical expertise with the skills of a systems navigator, health coach, and steadfast advocate. Acting as the patient's primary point of contact and the operational quarterback of the care plan, the care manager (often an RN or APRN) performs a multifaceted role (Boult et al., 2011).

Their work begins with a comprehensive, holistic assessment that views the patient through a biopsychosocial lens. They then co-create a personalized care plan, educate and empower patients on disease self-management, meticulously coordinate specialist appointments and community referrals, perform complex medication reconciliation, and provide direct clinical monitoring (Jackson et al., 2013). For many super-utilizers, whose experiences with healthcare are marked by trauma, dismissal, and fragmentation, the consistent, trusting, and non-judgmental relationship with a care manager is itself a powerful therapeutic intervention (Shier et al., 2013). This relational continuity is often the missing element that allows other clinical interventions to succeed.

The efficacy of nurse-led care management in reducing readmissions for specific chronic conditions is robust (Amal et al., 2022). In super-utilizer models, this intervention is intensified: caseloads are deliberately kept small (e.g., 50-80 patients per manager) to allow for the depth of engagement required. The role expands beyond clinic walls to include assertive community engagement—home visits, accompanying patients to appointments, and meeting them in shelters or cafes (Hwang et al., 2018). This work is powerfully augmented by Community Health Workers (CHWs), who provide culturally congruent peer support, practical assistance with social needs, and a vital bridge between the clinical world and the patient's community (Kangovi et al., 2014).

Healing the Whole Self – The Indispensable Integration of Behavioral Health

To ignore the behavioral health dimensions of super-utilization is to build a house on sand. For a significant proportion of these patients, psychological distress, untreated mental illness, or active substance use are not merely comorbidities; they are primary engines driving the cycle of crisis and utilization (Owens et al., 2018). Anxiety and depression can manifest as somatic symptoms leading to ED visits; psychosis can lead to self-neglect of medical conditions; substance use can directly cause organ damage and complicate treatment. Therefore, embedding behavioral health expertise is not an optional "add-on" but the very core of integration (Alakeson et al., 2010).

Effective models move far beyond simple referral to a separate clinic. They

employ collaborative, integrated care structures. The Collaborative Care Model (CoCM), with strong evidence for depression and anxiety in primary care, features a consulting psychiatrist who advises the primary care team and care manager on treatment plans (Archer et al., 2012). For super-utilizers with more severe conditions (e.g., bipolar disorder, schizophrenia, severe SUD), having a licensed clinical social worker (LCSW) or psychologist as a core, co-located team member is essential (Druss & von Esenwein, 2006). This professional can provide direct therapy, conduct motivational interviewing, manage behavioral crises proactively, and help the entire team interpret challenging behaviors through a trauma-informed lens. This integration ensures that a patient's insulin regimen and antipsychotic medication are managed in concert, and that a panic attack is met with therapeutic de-escalation rather than a punitive security response (Strunz et al., 2022).

The Proactive Sentinel – Point-of-Care Diagnostics and Remote Monitoring

Chronic disease exacerbation—a CHF flare from fluid overload, a COPD crisis from infection—is a predictable trigger for readmission. The integrated care model shifts the paradigm from responding to these events to preventing them. This is where innovative diagnostics and monitoring technologies become force multipliers for the care team.

Point-of-Care Testing (POCT) transforms the home visit or community clinic into a powerful diagnostic hub. A nurse or CHW can use a handheld device to obtain a BNP level to objectively assess a CHF patient's fluid status, check a creatinine for renal function, or measure an INR for anticoagulation management in real-time (Möckel et al., 2015; Gubala et al., 2012). This allows for immediate clinical decision-making—adjusting a diuretic dose, scheduling a follow-up, intercepting deterioration at its earliest stage, and preventing an ED trip for what would otherwise be a routine blood draw.

Complementing this, Remote Patient Monitoring (RPM) enables continuous, passive surveillance. Patients transmit daily weights, blood pressure, blood glucose, or pulse oximetry readings via Bluetooth to a centralized dashboard monitored by the care team (Dias & Paulo Silva Cunha, 2018). Algorithm-driven alerts flag concerning trends, prompting a timely check-in. This technology empowers patients in their own care, provides clinicians with rich longitudinal data, and creates an early-warning system that operates 24/7. The table below illustrates strategic applications.

Table 2: Proactive Monitoring & Diagnostic Technologies in Super-Utilizer Management

Chronic Condition & Clinical Threat	Monitoring Target & Physiologic Signal	Point-of-Care / Remote Technology	Clinical Action Protocol & Intervention Trigger
Congestive Heart Failure (CHF) Threat: Acute decompensation from fluid overload.	Intravascular volume status, renal perfusion.	**RPM:** Bluetooth-enabled daily weight scale. **POCT:** Handheld B-type Natriuretic Peptide (BNP) and creatinine analyzer.	**Protocol:** Daily weight transmission. >2-3 lb gain in 24hr or over 5 lbs in a week triggers nurse call. Elevated BNP/creatinine on POCT prompts diuretic adjustment per protocol.
Chronic Obstructive Pulmonary Disease (COPD) / Asthma Threat: Exacerbation from infection or inflammation.	Oxygenation, inflammatory markers.	**RPM:** Home pulse oximeter. **POCT:** Handheld C-Reactive Protein (CRP) test.	**Protocol:** SpO2 <88-90% on home monitor triggers assessment. Elevated CRP on POCT during symptomatic visit may prompt initiation of "rescue pack" antibiotics/steroids per standing order.
Diabetes Mellitus (Type 1 & 2) Threat: Hyper/hypoglycemia, long-term complications.	Glycemic control, variability.	**RPM/POCT:** Continuous Glucose Monitor (CGM) data stream or point-of-care HbA1c device.	**Protocol:** Review of CGM trend data during visits; remote alert for prolonged hypoglycemia. HbA1c >9% on POCT triggers medication review, diabetes education reinforcement.
Anticoagulation Management (e.g., Warfarin) Threat: Bleeding or	Coagulation status.	**POCT:** Handheld International Normalized Ratio (INR) monitor.	**Protocol:** Patient self-testing or CHW-assisted testing. INR result outside therapeutic range triggers immediate phone consultation for

clotting from sub-therapeutic INR.	warfarin dose adjustment, avoiding lab visit.

Evidence of Impact and Implementation Challenges

The literature on integrated care models for super-utilizers shows promising but mixed results. High-profile programs like **Camden Coalition's "Hotspotting"** and **University of Pennsylvania's IMPaCT** have demonstrated significant reductions in hospital days and costs, alongside improved patient experience (Finkelstein et al., 2020; Kangovi et al., 2014). A meta-analysis of care management interventions for HCHN patients found moderate reductions in hospital use, with greater effects in programs offering more direct patient contact and comprehensive services (Hong et al., 2014).

Key implementation challenges are substantial. **Financial sustainability** remains a hurdle, particularly in predominantly fee-for-service environments (Nelson, 2012). **Data sharing barriers** due to privacy concerns and incompatible IT systems hinder seamless coordination (Rudin et al., 2014). **Workforce development** is needed to train and retain care managers and CHWs. Perhaps most critically, achieving **true integration** between medical, behavioral, and social services requires overcoming deep-seated cultural and operational silos (Singer et al., 2011). Programs that succeed often have strong, committed leadership, physician champions, and a willingness to adapt the model based on continuous data feedback (Wong et al., 2023).

Conclusion and Future Directions

Developing a population health management strategy for hospital super-utilizers is a complex but necessary endeavor. It requires moving from a system organized around episodic care to one designed for holistic, continuous health management. The core of this strategy is an **integrated care model** that is: 1) **Informed by sophisticated analytics** for targeting and measurement; 2) **Structured by accountable administrative pathways** with aligned financing; 3) **Operationalized by dedicated nursing care management**; 4) **Enhanced by embedded behavioral health**; and 5) **Enabled by proactive diagnostic monitoring**.

Future directions include greater use of **artificial intelligence** to refine predictive risk modeling, expansion of **value-based payment models** that properly fund non-clinical services, and policy initiatives that facilitate data integration and cross-sector collaboration. The ultimate goal is not merely to reduce costs but to engage a vulnerable population in a more compassionate, effective, and dignified system of care that improves well-being and breaks the cycle of acute care dependency. Investing in these models represents a strategic opportunity to improve both population health and the financial viability of healthcare systems.

References

1. Alakeson, V., Frank, R. G., & Katz, R. E. (2010). Specialty care medical homes for people with severe, persistent mental disorders. *Health Affairs*, *29*(5), 867-873. https://doi.org/10.1377/hlthaff.2010.0080
2. Amal, S., Safarnejad, L., Omiye, J. A., Ghanzouri, I., Cabot, J. H., & Ross, E. G. (2022). Use of multi-modal data and machine learning to improve cardiovascular disease care. *Frontiers in cardiovascular medicine*, *9*, 840262. https://doi.org/10.3389/fcvm.2022.840262
3. Archer, J., Bower, P., Gilbody, S., Lovell, K., Richards, D., Gask, L., ... & Coventry, P. (2012). Collaborative care for depression and anxiety problems. *Cochrane Database of Systematic Reviews*, (10). https://doi.org/10.1002/14651858.CD00652 5.pub2
4. Bates, D. W., & Singh, H. (2018). Two decades since to err is human: an assessment of progress and emerging priorities in patient safety. *Health Affairs*, *37*(11), 1736-1743. https://doi.org/10.1377/hlthaff.2018.0738
5. Berkowitz, S. A., Hulberg, A. C., Hong, C., Stowell, B. J., Tirozzi, K. J., Traore, C. Y., & Atlas, S. J. (2016). Addressing basic resource needs to improve primary care quality: a community collaboration programme. *BMJ quality & safety*, *25*(3), 164-172. https://doi.org/10.1136/bmjqs-2015-004521
6. Blumenthal, D., Chernof, B., Fulmer, T., Lumpkin, J., & Selberg, J. (2016). Caring for high-need, high-cost patients—an urgent priority. *n Engl j Med*, *375*(10), 909-911.
7. Bodenheimer, T., & Berry-Millett, R. (2009). Care management of patients with complex health care needs. *Policy*, *1*(6), 1-16.
8. Boult, C., Reider, L., Leff, B., Frick, K. D., Boyd, C. M., Wolff, J. L., ... & Scharfstein, D. O. (2011). The effect of guided care teams on the use of health services: results from a cluster-randomized controlled trial. *Archives of internal medicine*, *171*(5), 460-466. doi:10.1001/archinternmed.2010.540
9. Cohen, S. B. (2015). The concentration and persistence in the level of health expenditures over time: estimates for the US Population, 2012-2013. *Statistical Brief (Medical Expenditure Panel Survey (US))[Internet]*.
10. Cutler, D. M., & Ghosh, K. (2012). The potential for cost savings through bundled episode payments. *The New England journal of medicine*, *366*(12), 1075. https://doi.org/10.1056/NEJMp1113361

11. Dias, D., & Paulo Silva Cunha, J. (2018). Wearable health devices—vital sign monitoring, systems and technologies. *Sensors*, *18*(8), 2414. https://doi.org/10.3390/s18082414

12. Druss, B. G., & von Esenwein, S. A. (2006). Improving general medical care for persons with mental and addictive disorders: systematic review. *General hospital psychiatry*, *28*(2), 145-153. https://doi.org/10.1016/j.genhosppsych.2005.10.006

13. Endalamaw, A., Khatri, R. B., Erku, D., Nigatu, F., Zewdie, A., Wolka, E., & Assefa, Y. (2023). Successes and challenges towards improving quality of primary health care services: a scoping review. *BMC Health Services Research*, *23*(1), 893. https://doi.org/10.1186/s12913-023-09917-3

14. Finkelstein, A., Zhou, A., Taubman, S., & Doyle, J. (2020). Health care hotspotting—a randomized, controlled trial. *New England Journal of Medicine*, *382*(2), 152-162. DOI: 10.1056/NEJMsa1906848

15. Finkelstein, A., Cantor, J., Gubb, J., Koller, M., Truchil, A., Zhou, A., & Doyle, J. (2023). Health Care Hotspotting and Ambulatory Care: A Randomized Trial of the Camden Coalition Core Model. *Health affairs (Project Hope)*, *43*(1), 131. https://doi.org/10.1377/hlthaff.2023.01151

16. Gubala, V., Harris, L. F., Ricco, A. J., Tan, M. X., & Williams, D. E. (2012). Point of care diagnostics: status and future. *Analytical chemistry*, *84*(2), 487-515. https://doi.org/10.1021/ac2030199

17. Hong, C. S., Siegel, A. L., & Ferris, T. G. (2014). Caring for high-need, high-cost patients: what makes for a successful care management program?.

18. Hsu, J., Price, M., Vogeli, C., Brand, R., Chernew, M. E., Chaguturu, S. K., ... & Ferris, T. G. (2017). Bending the spending curve by altering care delivery patterns: the role of care management within a pioneer ACO. *Health Affairs*, *36*(5), 876-884. https://doi.org/10.1377/hlthaff.2016.0922

19. Hwang, U., Dresden, S. M., Rosenberg, M. S., Garrido, M. M., Loo, G., Sze, J., ... & GEDI WISE Investigators. (2018). Geriatric emergency department innovations: transitional care nurses and hospital use. *Journal of the American Geriatrics Society*, *66*(3), 459-466. https://doi.org/10.1111/jgs.15235

20. Jackson, C. T., Trygstad, T. K., DeWalt, D. A., & DuBard, C. A. (2013). Transitional care cut hospital readmissions for North Carolina Medicaid patients with complex chronic conditions. *Health affairs*, *32*(8), 1407-1415. https://doi.org/10.1377/hlthaff.2013.0047

21. Kangovi, S., Mitra, N., Grande, D., White, M. L., McCollum, S., Sellman, J., ... & Long, J. A. (2014). Patient-centered community health worker intervention to improve posthospital outcomes: a randomized clinical trial. *JAMA internal medicine*, *174*(4), 535-543. doi:10.1001/jamainternmed.2013.14327

22. Kaufman, B. G., Spivack, B. S., Stearns, S. C., Song, P. H., & O'Brien, E. C. (2019). Impact of accountable care organizations on utilization, care, and outcomes: a systematic review. *Medical Care Research and Review*, *76*(3), 255-290. https://doi.org/10.1177/1077558717745916

23. Khatri, R., Endalamaw, A., Erku, D., Wolka, E., Nigatu, F., Zewdie, A., & Assefa, Y. (2023). Continuity and care coordination of primary health care: a scoping review. *BMC Health Services Research*, *23*(1), 750. https://doi.org/10.1186/s12913-023-09718-8

24. Kizer, K. W., & Jha, A. K. (2014). Restoring trust in VA health care. *New England Journal of Medicine*, *371*(4), 295-297. DOI: 10.1056/NEJMp1406852

25. Möckel, M., Searle, J., Hamm, C., Slagman, A., Blankenberg, S., Huber, K., ... & Giannitsis, E. (2015). Early discharge using single cardiac troponin and copeptin testing in patients with suspected acute coronary syndrome (ACS): a randomized, controlled clinical process study. *European heart journal*, *36*(6), 369-376. https://doi.org/10.1093/eurheartj/ehu178

26. Nelson, L. (2012). Lessons from Medicare's demonstration projects on disease management and care coordination. *Congressional Budget Office*.

27. Owens, M. D., Chen, J. A., Simpson, T. L., Timko, C., & Williams, E. C. (2018). Barriers to addiction treatment among formerly incarcerated adults with substance use disorders. *Addiction science & clinical practice*, *13*(1), 19. https://doi.org/10.1186/s13722-018-0120-6

28. Rudin, R. S., Jones, S. S., Shekelle, P., Hillestad, R. J., & Keeler, E. B. (2014). The value of health information technology: filling the knowledge gap. *Am J Manag Care*, *20*(11).

29. Salzberg, C. A., Hayes, S. L., McCarthy, D., Radley, D. C., Abrams, M. K., Shah, T., & Anderson, G. F. (2016). *Health system performance for the high-need patient: a look at access to care and patient care experiences*. New York (NY): Commonwealth Fund.

30. Shier, G., Ginsburg, M., Howell, J., Volland, P., & Golden, R. (2013). Strong social support services, such as transportation and help for caregivers, can lead to lower health care use and costs. *Health Affairs*, *32*(3), 544-551. https://doi.org/10.1377/hlthaff.2012.0170

31. Singer, S. J., Burgers, J., Friedberg, M., Rosenthal, M. B., Leape, L., & Schneider, E. (2011). Defining and measuring integrated patient care: promoting the next frontier in health care delivery. *Medical Care Research and Review*, *68*(1), 112-127. https://doi.org/10.1177/1077558710371485

32. Strunz, M., Jiménez, N. P. N., Gregorius, L., Hewer, W., Pollmanns, J., Viehmann, K., & Jacobi, F. (2022). Interventions to promote the utilization of physical health care for people with severe mental illness: A scoping review. *International journal of environmental research and public health*, *20*(1), 126. https://doi.org/10.3390/ijerph20010126

33. Van Grootven, B., Jepma, P., Rijpkema, C., Verweij, L., Leeflang, M., Daams, J., ... & Buurman, B. (2021). Prediction models for hospital readmissions in patients with heart disease: a systematic review and meta-analysis. *BMJ open*, *11*(8), e047576. https://doi.org/10.1136/bmjopen-2020-047576

34. Wong, E. C., Torres, V. N., Martinez, M. O., Han, B., Vue, M., & Derose, K. P. (2023). A parish-based multilevel cluster randomized controlled trial to reduce stigma and mental health treatment disparities among Latino communities. *Contemporary clinical trials*, *125*, 107080. https://doi.org/10.1016/j.cct.2023.107080

35. Zhou, H., Della, P. R., Roberts, P., Goh, L., & Dhaliwal, S. S. (2016). Utility of models to predict 28-day or 30-day unplanned hospital readmissions: an updated systematic review. *BMJ open*, *6*(6), e011060.https://doi.org/10.1136/bmjopen-2016-011060.